

Peng-Ting (Dean) Kuo

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Education

University of Texas at Austin

Doctor of Philosophy in Government

- Incoming student

Texas, USA

Aug 2025 - May 2030

National Taiwan University (NTU)

Master of Arts in Political Science (Majored in International Relations)

Taipei, Taiwan

Sep 2021 - Nov 2024

- Overall GPA: **4.06/4.3**

- Thesis: The Impact of Electoral Reform on Legislators' Campaign Strategies: An Application of Large Language Models
- Related courses: Probability and Statistics, Linear Algebra and Its Applications, Applied Deep Learning, Programming for Business Computing, Natural Language Processing and Its Applications, Data Science and Social Inquiry

National Taiwan University (NTU)

Bachelor of Arts in Political Science and Minor in Economics

Taipei, Taiwan

Sep 2017 - June 2021

- Last two years GPA: **4.11/4.3**

- Overall GPA: 3.64/4.3

- Related courses: Calculus, Microeconomics, Macroeconomics, Statistics and Econometrics with Recitation

Peer Reviewed Papers

"LLMs are Biased Evaluators: But Not Biased for Retrieval Augmented Generation." *The 63rd Annual Meeting of the Association for Computational Linguistics (ACL Findings). Vienna, Austria, Jul 27 - Aug 1, 2025. (with Yen-Shan Chen, Jing Jin, Chao-Wei Huang, Yun-Nung Chen)*

Work Under Review

"Explaining China's Security Policy under Xi Jinping: A Neoclassical Realist Approach." *R&R, with Ronan Tse-Min Fu, Yu-Ning Chiu*

"Democracy or Prosperity? A Cross-National Analysis of East Asian Countries." *Under Review, with Ronan Tse-min Fu, I-Lien Lee, Chia-Hsiang Han, Yu-Ning Chiu*

Conference Presentation

"Divergent Paths from Electoral Institutions to Campaign Strategies: Analyzing Candidate Manifestos in Japan and Taiwan." *Presented at The 2025 IPSA World Congress. Seoul, South Korea, Jul 12-16, 2025. (with Ronan Tse-min Fu, Nick Lin, Akitaka Matsuo, Naofumi Fujimura, and Yutaka Shinada)*

"Explaining China's Security Policy under Xi Jinping: A Neoclassical Realist Approach." *Presented at The Prospect Foundation Conference. Taipei, Taiwan, August 30, 2024. (with Ronan Tse-Min Fu, Yu-Ning Chiu)*

"From Human-Label to Auto-Label: An Automatic Classification Model for Legislators' Oral Question." *Presented at The 16th International Conference on Parliamentary Studies. Taipei, Taiwan, Jun 15-16, 2024. (with Yu-Hung Sun, Chun-Ming Tsui, and Hong-Wung Wang)*

"Decoding Campaigning Strategies: A Machine Learning Approach to Understanding the Impact of Election Systems on Legislative Candidates." *Presented at The 81st Annual Midwest Political Science Association Conference (MPSA). Chicago, United States, Apr 4-7, 2024. (with Ronan Tse-Min Fu)*

"Democracy or Prosperity? A Cross-National Analysis of East Asian Countries." *Presented at 2023 Asian Barometer Survey Conference. Taipei, Taiwan, Jun 13, 2023. (with Ronan Tse-min Fu, I-Lien Lee, Chia-Hsiang Han, Yu-Ning Chiu, and Ronald Pernia)*

Professional Experience

Institute of Political Science, Academia Sinica

Research Assistant

Taipei, Taiwan

Mar 2022 - Present

- Engineered datasets and conducted statistical analysis on cross-national data from twelve East Asian countries using Python and R, contributed to a publication at the Asian Barometer Survey Conference 2023
- Developed and curated a 2-million-entry news database from China's People's Daily. Trained classification models using PyTorch and RoBERTa framework, achieving 96% accuracy in identifying international news
- Developed and maintained an events database on UK-Germany relations, consolidating a comprehensive resource and literature reviews for the book project and regularly reporting progress to the team

Department of Computer Science & Information Engineering, NTU

Research Assistant

Taipei, Taiwan

Aug 2024 - Present

- Optimized research design and evaluated bias in LLMs (GPT, LLaMA) using the Retrieval-Augmented Generation (RAG) framework, incorporating social science experimental methodology
- Curated and analyzed 1000+ paired human-AI annotated datasets, developed visualization tools for bias assessment, contributing to a paper submission to The 31st International Conference on Computational Linguistics (COLING)

Institute of Sociology, Academia Sinica

Taipei, Taiwan

Research Assistant

Apr 2024 - Present

- Analyzed 600+ WTO Dispute Settlement Body cases and 8000+ documents using social network analysis uncovering key patterns and relationships between countries
- Designed data pipeline from scratch, including web scrapping, text pre-processing, and data analytics, improving data accessibility for further research

Invited Talk

Exploring an Interdisciplinary Academic Career in Data Mining and NLP

2024

Department of Political Science, Soochow University

- Guest lectured on applications of NLP in political science research during graduate statistics courses
- Led hands-on Python programming workshops demonstrating NLP implementation

Honor

Phi Tau Phi Scholastic Honor Society, National Taiwan University

2025

Warranted of achieving academic excellence upon graduation

TOEFL ITP Higher Education Research Scholarship, TOEFL Chun-Hsin Limited

2024

Fostered international academic talent through supporting young scholars to develop both research capabilities and academic English proficiency in higher education

Travel Grant for International Conference Participation, National Science and Technology Council; NTU

2024

Encouraged students to attend international conferences, present research results and strengthen research capabilities

Diplomatic Scholarship, Ministry of Foreign Affairs, Republic of China (Taiwan)

2022

Awarded students with outstanding academic performance and interests in diplomacy

Yu Ren-Huan Scholarship, Department of Political Science, NTU

2019

Awarded to students with outstanding academic performance in the study of political science

Dean's List Award (Rank 2/46), NTU

2019

Awarded students with outstanding academic performance

Teaching Experience

National Taiwan University (NTU)

Taipei, Taiwan

Applied Deep Learning (CSIE5431)

Sep 2024 - Nov 2024

- Served as a course teaching assistant, providing weekly office hours for student coding or model-tuning inquiries
- Graded natural language generation assignment of 170+ students which constituted 20% of their final course grade

Computational Social Science (PS5697)

Feb 2024 - May 2024

- Conducted weekly office hours, addressing code issues and project ideas in computational social science
- Instructed students in fundamental Netlogo programming syntax and library utilization

Basic Mathematics for Social Science (PS5710)

Sep 2023 - Dec 2023

- Facilitated in-depth learning of calculus and linear algebra for graduate-level social science students

Social Network and Group Behavior (PS5705)

Feb 2023 - Jun 2023

- Instructed students in R programming fundamentals for social network analysis and offered weekly support sessions

Seminar on Game Theory (PS5019)

Sep 2022 - Dec 2022

- Supported graduate students in advanced game theory concepts through weekly office hours

Project

Legislator Manifesto Classification (Master's Thesis)

Feb 2023 - Jun 2024

- Uncovered key relationships between electoral systems and candidates' strategies and contributed a complementary theory for electoral reform, enhancing understanding of campaign strategies in Taiwan
- Developed a novel classification pipeline using BERTopic, LDA models, and LLM-based prompt engineering with Chain-of-Thought and Least-to-Most, automating and improving objectivity in manifesto classification

Legislator Interpellation Classification

Nov 2023 - Dec 2023

- Addressed the high cost of manual annotation legislators' questioning classification tasks, significantly reducing resource requirements streamlining political text analysis
- Implemented a multi-label classification model for Taiwan legislator interpellations using Longformer and RoBERTa architectures, achieving a Hamming score of 0.84, equivalent to human coder inter-reliability

Predict House Price by House Description in Taipei

Nov 2022 - Nov 2022

- Developed a machine learning algorithm to improve house seekers' filters by classifying house descriptions and features
- Transformed text using TF-IDF and developed models including Support Vector Machine and Random Forest to predict house prices and attained over 71% accuracy

Skills

Language	Mandarin, English (GRE 330/340 (V:160 Q:170 AW:3.5); TOEFL 106/120 (R:29 L:27 S:23 W:27)), Japanese
Programming	Python (PyTorch, Numpy, Pandas, BERTopic, Langchain), R, Netlogo
Software Skills	LaTeX, Git, Linux(Ubuntu, Shell Scripting)